

# Supply Chain Theory and Cultural Diversity

## ABSTRACT

**Purpose:** By far the biggest proportion of supply chain theory is bound up within North American and European business settings, hence its generalisability to culturally diverse global supply chains is investigated.

**Methodology:** This exploratory research utilises the anthropological approach of observing supply chain manager behaviour in five distinct natural settings (Egypt, New Zealand, Japan, Thailand, and the United Kingdom). Hofstede's (1980) well-known measures of work-related culture are used to explain the observed manager behaviours.

**Research Implications:** Supply chain theory needs to be tailored to take account of culturally diverse settings as the optimal local supply chain architecture requires consideration of national, organisational and individual cultural norms. Similarly, change roadmap and management should also be matched to the local cultural environment.

**Research Limitations:** A limited number of national settings, and cases in each setting, is investigated. Hence, significant scope exists for further exploratory research into the implications of cultural diversity for global supply chain management.

**Original contribution:** The behaviour of supply chain managers in a range of national settings appears to be closely correlated with the national culture value set. Such cultural drivers of manager behaviour offer pointers to the successful design and implementation of high performing international supply chains.

**Key Words:** Global supply chains, anthropology, managerial behaviour, supply chain culture, cultural diversity, behavioural operations management, national context, supply chain management, international management

## 1. INTRODUCTION

Despite some twenty-plus years of concentrated academic effort, industry adoption of supply chain management (SCM) theory has generally been poor. Can this be linked to a belief by most economic anthropologists that classical economic theories derived from modern capitalistic economies are inappropriate for understanding small-scale, non-Western economies? (Ferraro, 2006, page 15). It is certainly true that the vast bulk of supply chain (SC) theory is bound up within the business settings of North America and Europe, and derived by Western researchers engaged on a quest for some sort of 'universal truth' (Friedman, 2006; Hoecklin, 1995). Thus, important questions concerning the veracity of theory derived from researching large-scale capitalist societies include: Is there a need to tailor SCM theory for different national settings? How portable are the recommended SC approaches? and, Has a Western cultural lens and associated ethnocentric value judgements served to filter out what may be very important considerations for SC managers in non-Western settings?

This research is a response to direct calls for research into culture and how it affects supply chain management practise (Zhao et al., 2008). It concerns the overarching question of whether SCM theory needs to be tailored for different national settings. Although supply chain networks increasingly extend across international borders, little research has explicitly addressed how recommended approaches to SCM derived in Western settings may need to be adapted to suit local conditions. The particularistic perspective being adopted here requires that context and culture be explicitly considered (Prasad and Babbar, 2000); for example, the underlying cultural factors that make one supply chain solution optimal in one country but almost infeasible in another (Metters et al, 2010). To begin to understand whether SCM theory needs to be tailored to different national settings, this exploratory study attempted to answer the following questions:

*RQ1: Does the behaviour of supply chain managers differ internationally?*

*RQ2: What part, if any, does national culture play in such behaviour?*

By addressing these questions it was hoped that pointers to the successful design and implementation of supply chains that cross cultural boundaries might be found. Qualitative research into international supply chain comparison is especially rare. One such study by Halldorsson et al. (2008) examined SC definitions, facilitators, and barriers to implementation and compared data derived from North American and Scandinavian samples. Similarly, Childerhouse et al. (2008), Closs and Mollenkopf (2004), and Naor et al. (2010) investigated the supply chain competency-performance relationship. However, such cross-national performance comparisons can yield invalid comparisons due to (frequently unacknowledged) performance influencing factors that are more impactful than the SC practises being studied. Being mindful of this, a broad range of empirical context data was collected as part of the present study, including prevailing market conditions, geographical location, infrastructure limitations, and so on. This data was collected during ethnographic field research conducted in five countries: Egypt, New Zealand, Japan, Thailand, and the United Kingdom.

Following is a brief review of literature concerning the universalism versus particularism debate, then followed by the international setting of supply chains and consideration of national cultural diversity. The national cultures of the countries that comprise the sample is then briefly outlined as well as the supply chain management behaviours that might be expected in light of these characteristics. The research method section provides justification for the research design. Presentation of findings is followed by discussion that highlights the most salient messages and proposes further avenues of research.

## **2. LITERATURE REVIEW**

### *2.1 The Universalism versus Particularism Debate*

Trompenaars (1993) and Hoeklin (1995) highlight the ontological dichotomy central to this research: from the *universalism* perspective people believe that what is true and good

can be discovered, defined and applied everywhere; implying that supply chain theories and approaches developed and applied in one context are directly transferable to another. In contrast, the *particularism* perspective focuses on the unique circumstances and personal relationships that determine what is wrong and right; from this standpoint supply chain management approaches would need tailoring for each specific context, and in particular for the people in the local organisation.

Although universalism is the dominant perspective reported in the supply chain literature, this has recently come under scrutiny in light of anecdotal evidence such as that which appears in Table 1. These statements undermine the universalism perspective that underpins Western supply chain theory and its assumed generalisability. For example, how can an integrated supply chain ever be achieved by Chinese and Korean factories when workers are not permitted to talk to each other, or suggestions for quality improvements are rarely forthcoming?

Insert Table 1. Operations Management Particularism Anecdotes

## *2.2 National Contexts*

The present study was conducted in five different national settings having quite diverse supply chain contexts and with managers who were observed to have a wide range of outlooks and capability. For example, to maintain a functioning supply chain in Egypt some organisations opt to maintain control via vertical integration. Others aim to amass large stocks of raw material or merchandise due to a high inflation rate that encourages them to believe that inventory material is superior to cash. In addition, chronic delivery delays caused by chaotic traffic systems (Salaheldin, 2005) cause supply chain managers to offset supplies shortages with large inventories.

The limited amount of available New Zealand literature (Mollenkopf and Dapiran, 2005) consistently points to a significant gap existing between theory and practise. For example,

Wilson and Sankaran (2001) identified that New Zealand's local manufacturers are lagging behind their overseas counterparts in many key areas of supply chain management. More recently Basnet et al. (2003; 2006) supported these findings by highlighting that the latest theoretical supply chain developments are poorly understood, and reported an equally poor uptake by New Zealand firms. Similarly, Böhme et al. (2008) report inappropriate supplier relationship management practises by many New Zealand firms that result in weak linkages with key suppliers.

In Japan, while efficient logistics and information infrastructure services are available and well-established SCM can be observed in large organisations, this situation differs to that in most SMEs. Yet, although many large organisations have established sophisticated relationships with their suppliers and have invested in IT systems to achieve a more efficient supply chain and better customer satisfaction, long-lasting severe economic conditions have caused supply chain management to be increasingly viewed as a cost cutting target. SMEs that lack the necessary knowledge, skills, resources and power to initiate SCM as a means for overcoming the recession may also believe that SCM is a kind of a business relationship scheme being driven by their larger customers; hence, a major concern of SMEs is how they can satisfy these customers cost efficiently.

In Thailand SCM is still in its infancy, particularly in SMEs and family-owned businesses. While SCM practises have been widely implemented between multinational firms these approaches have still to reach the small and medium-sized local suppliers (Wong and Boonitt, 2008). Hence supply chain performance for many local firms, while currently weak, has excellent potential for improvement. During supply chain assessments of many local firms it was discovered that tools such as the SCOR model and the Enkawa Supply Chain Logistics Scorecard were judged too complicated and too difficult to use; with SMEs especially (Banomyong, 2008).

The maturity of SCM practises in the UK appears to be variable. For example, within the grocery and automotive sectors are examples of world class performance. Tesco is twice as profitable as the UK grocery industry average and has led the way in terms of supply chain and logistics practise (Potter et al., 2007). Similarly, the UK Nissan and Toyota factories figure among the most efficient car production sites in Europe. However, some 50% of UK GDP, and almost 70% of UK employment is in SMEs (CBI, 2000 cited in Quayle, 2003), where SCM practises appear to be relatively unsophisticated. In Quayle's 2003 survey only 25% of 480 SMEs had a SCM strategy and of those only some 10% had a senior executive responsible for the supply chain.

### *2.3 National Cultural Diversity*

To emphasise the national settings of the countries sampled, the cultural differences between countries of the Arab world, New Zealand, Japan, Thailand and the United Kingdom are indicated in Table 2 using Hofstede's (1980) cultural dimension values. Such measures of work-related culture may be used to help explain observed management behaviours.

Insert Table 2. Hofstede's (1980) Cultural Dimensions

One limitation of Hofstede's analysis is that it lumps the Arab countries together (Egypt, Iraq, Kuwait, Lebanon, Libya, Saudi Arabia, and United Arab Emirates) even though major differences exist between them (Javidan, 2006). Egypt is the largest and most populous Arab country and if the assumed cultural norms for the region do carry over into Egyptian supply chain practises one might expect to observe an extremely strong/domineering leader and a strong leadership; extensive use of standard operating procedures (SOPs), formal forecasting and other models, and many tightly formalised supplier and customer relationships all aimed at reducing supply chain uncertainties; a prevalent group/process

view and teams comprised of loyal, mostly male staff that have a sense of self importance; finally, the Egyptian organisation will probably tend to adopt a short-term view of business.

In contrast, the New Zealand societal norms imply supply chain practise having a consensus style of leadership; some evidence of SOPs, forecasting and other models, and some supplier relationships in order to reduce supply chain uncertainty; and probably a prevalent silo view of the organisation. New Zealand and the UK rate similarly on three cultural indices that indicate one might expect to observe individuals with egos who do not feel automatic loyalty to the organisation and its leader; male-dominated decision-making; and a tendency for the organisation to adopt a short-term view of business.

Japan's societal norms indicate that its supply chain practises could be quite unique in the sample; being well-coordinated, having little uncertainty and based on long-lasting relationships.

If the societal norms in Thailand carry over into supply chain practise one might expect to observe a very strong/domineering leader and a strong leadership doctrine; extensive use of SOPs, forecasting and other models, and many tightly formalised supplier and customer relationships – all aimed at reducing supply chain uncertainties; a prevalent group/process view, with a team that is equally comprised of loyal male and female staff with no great sense of self importance; finally, the Thai organisation will tend to adopt a long-term view of business.

In the UK, if its societal norms are carried over into supply chain practise, one might expect to observe a clearly-defined leader who others look to for direction; few SOPs, formal forecasting and other models, and loose supplier relationships - which if present could reduce supply chain uncertainty; and again a prevalent silo view of the organisation. These 'likely' practises are summarised in Table 3.

Insert Table 3. Culture: Posited implications for supply chain practise

### **3. METHODOLOGY**

In order to conduct exploratory research into cultural supply chain behaviour a thorough investigation of the actions, values and norms of supply chain managers is required (Mettters et al, 2010). The underlying logic of the research perspective to be tested is illustrated in Figure 1.

Insert Figure 1. Cultural Factors Affecting the Behaviour of Supply Chain Managers

In this exploratory study the link between National Culture and SC Manager Behaviour is specifically explored. It was considered that a supply chain manager's decision-making behaviour/response to the internal and external business environment is influenced by four main drivers. Firstly, and as noted above, the individual norms, expectations and values of a nation's National Culture provide the broad cultural setting for supply chain decision making and is considered to directly impact manager behaviour. National Culture can also affect the internal Organisational Culture (Aycaan et al, 1999; Schmeider, 1988; Ralston et al, 1997), giving rise to an internal culture that may differ from the national norm (Von Glinow et al, 2002). In addition, the SC manager may have migrated from a country with different cultural norms, with the result that any Individual Culture residual will also affect behaviour. Finally, Figure 1 acknowledges the SC manager's individual personality traits, which directly impact his/her behaviour.

The targeted data was concerned with how individuals act in accord with the moderated national culture values. Through the application of standard research protocols (Naim et al, 2002), anthropological data was acquired by field researchers who reside in the respective five countries that comprise the sample. This primary observation data of supply chain managers in action was combined with insights from action research projects

and from long term collaborative research relationships to provide a rich stream of cultural supply chain data.

#### **4. ETHNOGRAPHIC STUDY FINDINGS**

The behaviours of a broad range of supply chain managers was collected through many hours of direct observation and enquiry. A number of similarities was observed and these behaviours are categorised into 13 supply chain manager types as shown in Table 4. For the sake of brevity their salient features will now primarily be discussed within the New Zealand national context since, with the exception of the *Integrator*, every other supply chain manager category was observed in that country dataset.

Insert Table 4. Categories of Observed Supply Chain Manager Behaviour

The most prevalent category of supply chain manager in the New Zealand national sample was the *Absentee* supply chain manager; simply put, no-one in the organisation was given overall responsibility for managing the supply chain.

For the *Administrator* category of supply chain manager the emphasis is on being seen to make the right decision rather than actually making the right call. While these overly officious, nit-picking individuals provide structure and stability for those working in the supply chain, overall supply chain effectiveness is overlooked due to an obsession with static, outdated procedures. "*It's not my fault the customer didn't receive their order, all the forms are in place so by my count the product was dispatched*" - Middle manager in the NZ health sector supply chain (New Zealander).

SC operations attract a great deal of organisational change and, likewise, change affects a large number of organisational functions. Supply chain managers continually assess markets, competitors and internal competences and are well positioned to appreciate business dynamics. Consequently, the *Change Agent* category of supply chain manager

champions continuous improvement and dynamic alignment of supply with demand. *"Things change and we have to keep up; if we are not improving then we are moving backwards"* - Supply chain manager of a NZ primary producer (British).

Some supply chain managers wield incredible power and influence to control their supply chain. Thus the Supply chain *Commander* was observed in several countries including New Zealand to influence every supply chain decision. No matter how trivial, all questions are channelled to them. Front-line 'troops' are deemed only fit for undertaking operational tasks so that actual management of the supply chain is left to the single supreme chief. *"All the operations work in synchrony with one another. I provide leadership and guidance"* - Senior supply chain manager of a NZ FMCG (German).

Supply chains are complex and require managers that can coordinate all the various parts into a synchronised whole. The *Coordinator* category of supply chain manager orchestrates the material and information flows so that harmony is achieved across the interfaces. However, the human element can be overlooked when aiming for regimented coordination. *"We make sure all the parts arrive in a kit so the next business process can run unhindered. People are [finally] starting to appreciate the value of full synchronisation"* - Senior supply chain manager of a NZ FMCG organisation (New Zealander).

Numbers are the key to achieving optimisation and the measurement, control and management of business processes are based upon tangible outputs. Thus the *Cost Accountant* category of supply chain manager participates in all supply chain decisions, when various trade-offs are calculated and efficiency is paramount. *"Let's run the numbers before jumping to answer that supplier; the new commodity tracking spreadsheet will provide us with the optimal product mix"* - Senior supply chain manager of a NZ dairy organisation (New Zealander).

In many New Zealand organisations there is also the need to be seen to be busy. Supply chain managers can often seem to be hyperactive; running from one emergency to another, expediting materials and constantly dealing with customers and suppliers to work out ways to cope with the daily noise of operations. A lack of formal analysis and reliance on tacit knowledge empowers this *Firefighter* supply chain manager as an essential link of the value adding process. *"Everybody knows me, and I'm sure at times many people cringe when they see me coming as they are hoping my latest emergency doesn't affect them"* - Middle manager of a NZ heavy machinery organisation (New Zealander).

A small number of supply chain managers were observed to act like an entrepreneur. Given their excellent grasp of supply chain concepts and appreciation of the business environment, these *Innovator* supply chain managers create new supply chain approaches and tailor generic concepts for their specific use. Change and the motivation for change is central to their arguments with colleagues plus the need for unique value offerings for customers is paramount. *"We had to compete with the cheap Chinese steel imports so developed new house-building steel products that incorporate timber"* Senior supply chain manager of a NZ steel fabricator (nationality: British).

In line with contemporary SC theory the *Integrator* category of supply chain manager sees their role as a facilitator for the connection of the various parts of the supply chain. External relationships are managed to best suit the supply chain objectives and information technology is often used extensively to interlink the various business processes and inter-organisational exchanges. *"The guys in Japan organise the supply chain, they schedule the delivery of raw materials and co-ordinate the call-off of final product and its delivery to best integrate with their UK assembly plant"* - Senior supply chain manager of a UK automotive systems manufacturer (British).

The *Leader* category of supply chain manager attempts to empower his/her people through education, clear direction, and open and frank information exchanges. The motivation of

doing a good job is paramount and they are often provided with staff training and other necessary resources to complete the task to the highest standard. *"My job is to get everybody singing from the same hymn sheet. I can't be everywhere at once so I delegate as much as possible"* - Senior executive of a NZ mass merchant (British).

Knowledge is power and sometimes managers act as knowledge brokers. Being at the interaction of the different functions allows the *Negotiator* category of supply chain manager to collect valuable information and decide how to best leverage it. External linkages are similarly used to influence internal colleagues. *"Work is a series of negotiations, the more influence we can bring to the table the more likely you leave with what you want"* - Senior supply chain manager of a NZ dairy company (New Zealander).

Supply chain education is lagging behind demand in New Zealand, (Wen et al, 2008) with the result that a significant skills shortage exists. Senior supply chain managers have typically been promoted from within to fill a gap and such untrained and myopic managers are frequently observed during New Zealand audits to act as an *Obstacle* to supply chain effectiveness, *"I don't know what all the fuss is about SCM; our processes work OK and don't need fixing"* - Senior supply chain manager in the NZ health sector (nationality: New Zealander). Recent studies (Hannagan, Lawton and Mallory, 2007; Van Hoek, Godsell and Harrison, 2011) into the SCM practices of a number of UK Further Education (FE) Colleges support the observation that managers may remain largely unconvinced about traditional SCM practices and approaches; stating that their sector is somehow unique and cannot be controlled or managed using such means. However, when FE managers are asked how their supply chain should be managed they are usually at a loss to suggest any formalised approach and state that experience in the job gets them through.

Organisations are collections of individuals who attempt to do the best for themselves and their departments. Building and maintaining relationships between these elements is the main role of the *Relationship Builder* category of supply chain manager, who provides a

great deal of understanding and wider trade-offs. In time these individuals are formed into teams that bridge boundaries for achievement of wider supply chain goals. "*Being a supply chain manager is all about relationship management. I spend most of my time travelling from one meeting to another; gaining buy-in and building consensus*" - Supply chain executive of a NZ primary producer (British).

These findings clearly demonstrate the wide variety of observed supply chain manager behaviours. Next, the link between national culture and these supply chain behaviour is evaluated.

## **5. LINKING NATIONAL CULTURE TO BEHAVIOUR**

The high level of individualism demonstrated by both NZ and the UK (earlier Table 2) helps to explain the prevalence of supply chain managers assigned to the *Obstacle* category. Here the individual manager protects himself to the detriment of everyone else; conversely, institutional collectivism creates teamwork and breaks down functional boundaries and fosters quality circles (Flynn et al, 1994).

The two Anglo-Saxon cultures also score low on the long-term orientation cultural dimension, which helps to explain the prevalence of supply chain managers in the *Firefighter* category; someone who is proud to focus on short term problem solving. This is the complete opposite to cultures displaying longer-term future orientations that foster continuous improvement (Flynn et al, 1994) and an extended supply chain planning horizon (Choi and Hartley, 1996).

New Zealand culture has a low tolerance for uncertainty, resulting in a large proportion of management time being spent developing and adhering to procedures and giving rise to the *Administrator* supply chain manager. Naor et al (2010) argue that cultures with low tolerance of uncertainty also develop fact-based managerial decision-making as opposed

to gut intuition; however, this was a feature not observed in the New Zealand sample of supply chains.

The male dominated decision making approaches observed in Egypt and NZ clearly links to the supply chain manager as *Commander* category, even though the low power distance of NZ society might be expected to have countered this to some extent.

Observation of the supply chain *Negotiator* who inhabits the information crossroads also seems to be linked to the dominance of the individual in NZ and the UK, as opposed to the collective/collaborative approaches observed in the other country cultures. Furthermore, low assertiveness has been argued as a complementary factor when negotiating with suppliers and customers (Naor et al, 2010).

*Cost Accountant* behaviour may be viewed as an extension of the *Administrator* supply chain manager, with a low tolerance for uncertainty driving decision making based on measurable data. However, it would be a stretch to argue that this is evidence of any serious attempt to systematically develop fact-based managerial decision-making.

The very low/low power distance in NZ/UK may explain the supply chain *Coordinator* behaviour observed. Subordinate feedback is essential for this management style, where all supply chain business processes are viewed relatively equally. Low power distance also seems to play a part in the behaviour of the *Innovator*, *Leader*, and *Integrator* categories as all require subordinate empowerment. Reduced power distance allows employees to make independent decisions irrespective of their position in the organisational hierarchy (Nakata and Sivakumar, 1996).

The presence of Thai *Relationship Builders* had been expected due to the loose nature of supply chain linkages and a long-term orientation that would seem to fit this supply chain change behavioural type (Naveh and Erez, 2004). Interestingly this type was also observed

in NZ and the UK where a national emphasis on individual (over collective) interpersonal relationships seems to result in the existence of the supply chain *Relationship Builder*.

Joint ventures with foreign investors introduces another layer of multicultural complexity. Initial data indicates that Thai and Japanese managers tend to act as the *Coordinator* in foreign markets since they provide global coordination for the flows of material and expertise. If the company is a local subsidiary of a multinational, Thai supply chain managers tend to behave as a *Leader*, since many of them are actually expatriate managers from the parent company.

## **6. DISCUSSION**

In an era of global supply chains this article addresses the call for research into culture and how it affects SC management practise (Zhao et al., 2008). In particular, the lack of research into whether SCM theory generated in a Western setting should be tailored to non-Western cultures led the authors to consider the cultural diversity of real-world supply chains and possible impacts on manager behaviour. The exploratory research considered two fundamental questions: *Does the behaviour of supply chain managers differ internationally?* and, *What part, if any, does national culture play in such behaviour?*

A range of management behaviour styles observed in five different countries was separated into 12 distinct categories, which were subsequently linked to accepted national culture characteristics. This provided insights into how national culture does appear to affect how supply chains are managed. In many cases the behaviour of supply chain managers appears to be closely correlated with the national culture value set; even expatriate supply chain managers soon forego their 'home' culture norms and behave in accord with the local national and organisational cultures.

Such strong culture-behaviour correlation highlights the main shortcoming of the universalism perspective in the context of global supply chain theory, and questions the

wisdom of assuming that SC theory generated in any particular national setting will be generalisable to other more culturally-diverse settings. By failing to account for local contexts and cultural norms *any* theory will ultimately fail to be adopted by practitioners. In contrast, the particularism perspective acknowledges that supply chain theory needs to be tailored to take account of culturally diverse settings, as the optimal local supply chain architecture requires consideration of national, organisational and individual cultural norms. Similarly, change roadmap and management should also be matched to the local cultural environment.

Given the exploratory nature of this study and the limited set of cases, there clearly is a need for further research to confirm the cultural characteristics and links to observed behaviours of international supply chain managers. The next step is to match the alternate behaviours to relevant performance and also to attempt to find cultural matches between supply chain managers and national settings. As noted earlier, in a number of cases the SC manager had migrated to the country which introduces even more questions for future research such as, Why do managers (apparently) readily modify their behaviour to match the new cultural norms? and, Do managers from one culture fit better into certain cultures? This highlights the need to tailor desirable supply chain management behaviour (especially leadership skills) to specific national settings and gives rise to further interesting questions such as, Do expatriate South Africans make the best supply chain managers in New Zealand? or, Are Americans only good managers of American supply chains? Related human resource management issues are therefore also considered to be very fruitful areas for future research.

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Anecdote	Explanation	Reference
"Yes" does not mean "yes"	In many Asian cultures the word "yes" is sometimes used to save face and is not a confirmation of agreement.	Davis (2006)
The captain is in charge	Deference to authority limits subordinates' input, e.g. reluctance to contradict the captain contributes to the high crash rates of Korean aircraft.	Gladwell (2008)
Women's work	In Korean factories women rarely manage men. Women typically perform fine motor assembly tasks and quit when they marry.	Kim (1997)
TQM without suggestions	Transplanted Western factories in Asian countries experience large power distances between the workforce and management. Hence, suggestions for quality improvements are rarely forthcoming.	(Kettinger et al., 1995)
No talking	Talking between workers is not allowed in many Chinese and Korean factories. Sometimes the shop floor is designed to minimise opportunities for employees to talk.	Ngai (2005) and Kim (1997)
How fresh?	Wal-Mart's centralised procurement had to be refined for Chinese retail stores because fresh meat means that it's still alive in Asia as opposed to 'freshly packaged' in the West.	Wang (2006)
Work to live or live to work	Different cultures put emphasis on immediate gratification, getting things done or detachment from objects.	Kluckhohn and Strodtbeck (1961)
An evil workplace	A US-run Malaysian factory calls in the local shaman every six months to pray and remove the bad spirit.	Ong (1987)

Table 1. Operations Management Particularism Anecdotes (summarized from Metters et al., 2010)

Cultural Dimensions	Definition	Arab	NZ	Jap	Thai	UK
Power Distance	The degree of equality, or inequality, between people in the country's society	80	22	54	64	35
Individualism	The degree the society reinforces individual or collective achievement and interpersonal relationships	38	79	46	20	89
Masculinity	The degree the society reinforces, or does not reinforce, the traditional masculine work role model of male achievement, control, and power	52	58	95	34	66
Uncertainty Avoidance	The level of tolerance for uncertainty and ambiguity within the society - i.e. unstructured situations	68	49	92	64	35
Long-term Orientation	Society's time perspective and an attitude of persevering; that is, overcoming obstacles with time, if not with will and strength	-	30	80	56	25

Table 2. Hofstede's (1980) Cultural Dimensions

	Leadership Style	Staff Loyalty	Business Orientation	Silo or Process View	Use of SOPs and Models	Extent/ Nature of SC Linkages	Decision Making Style
Egypt	Strong/ Domineering	Loyal team	Short-term	Process	Extensive	Some/ formal	Male bias
NZ	Consensus	Some Loyal	Short-term	Silo	Some	Some/ formal	Male bias
Japan	Clearly-defined	Loyal team	Long-term	Process	Extensive	Formal	Male bias
Thailand	Strong/ Domineering	Loyal team	Long-term	Process	Extensive	Many, tight, formal	Male/ Female
UK	Clearly-defined	Some Loyal	Short-term	Silo	Rare	Loose	Male bias

Table 3. Culture: Posited implications for supply chain practise

Manager type	Description	Case Occurrence(s)
<i>Absentee</i>	No one is responsible for the supply chain, often leaving large procurement budgets unchecked and limited effort placed on cross-functional trade-offs. The organisation does not perceive significant value in appointing a dedicated supply chain manager.	NZ heavy equip. manuf. NZ commodity producer NZ health provider NZ commodity importer NZ engineering equ. manuf. JPN multiple industries Thai Rice Oven manuf. Thai ambulance assembler Thai banana chip producer Thai steel product manuf. UK auto component manuf. UK auto system manuf. UK aero. component manuf.
<i>Administrator</i>	Procedure-based management. Task orientated with specified goals as agreed in committee meetings. Slow in responding to external stimulus. The focus is more on being seen to have made the right decision according to policy rather than making the right call.	EG textile producer JPN pharmaceutical JPN 3PL NZ health sector NZ forging Thai FMCG Thai electronic manuf. UK auto systems UK Aero. maintenance
<i>Change Agent</i>	Dynamic markets and a focus on core competence requires SC managers to constantly refresh their SCs. Keeping up with best practise, global sourcing and international trends, continuous improvement is a mantra. They often develop and integrate local supply chain companies into global networks to obtain optimum agility and cost capabilities.	NZ primary producer UK auto systems UK lighting products UK seating manuf. UK food manuf.
<i>Commander</i>	Direct command and control of multiple levels of decision making. All initiatives come from above and directives are issued to the troops. The SC operates as a ship of the line and is as polished as possible within the limited imagination of one commander. However the system stalls if the commander is not present because subordinates are not empowered or lack confidence to make decisions.	EG Retail Chain EG Auto feeding industry NZ FMCGThai Bearing Distributor Thai kitchenware importer Thai pallet manuf. Thai footwear manuf. UK Further education
<i>Coordinator</i>	Linking the SC processes together across functional boundaries is a full time task for these managers. Acting as information conduits, filtering and passing relevant information to the different functions.	EG Rug manuf. JPN fashion industry JPN convenience stores NZ FMCGThai Packaging manuf. Thai telecom assembler Thai chemical manuf. Thai GPS assembler UK Food retail UK Milkshake
<i>Cost Accountant</i>	Balanced and analytical approach to managing SCs. The costs of alternative value adding and other activity are carefully cross-checked with re-engineering alternatives to identify optimal efficiency. May overlook the human element of SC operations.	EG Cables manuf. JPN dairy industry JPN pharmaceutical JPN trading NZ dairy industry NZ FMCGThai paper manuf. Thai roof tiles manuf. Thai paint manuf. UK Tier 1 compts.

<i>Firefighter</i>	A livewire reactive manager, keen to keep an eye on operations and participate in strategic decision making. Lacks a holistic view and any real sense of direction. Busy being busy putting out operational fires that recur because the root causes are not addressed.	EG retail chain NZ 3PL NZ heavy machinery NZ forging NZ commodity wholesaler JPN 3PL UK auto components
<i>Innovator</i>	Creative and holistic entrepreneur. As an information hub the wider trade-offs and more innovative options can be developed. Open discussions with multiple SC personnel and a willingness to accept mistakes as part of learning.	NZ commodity wholesaler NZ steel fabricator UK lighting products UK Transformer cores
<i>Integrator</i>	Synchronisation of material and information flows and the removal of waste is achieved through a well orchestrated SC. Responsibilities are clearly defined and holistic trade-offs performed. Appropriate external interfaces are designed and operated.	EG Rug manuf. JPN fashion industry JPN convenience stores Thai Glass manuf. Thai aluminium manuf. Thai agri. equipment manuf. Thai electronics manuf. Thai mobile phone operator UK auto systems UK FMCG
<i>Leader</i>	Clear, decisive yet considered and balanced. Overall effectiveness achieved through empowered leaders at all levels of SC management. Open and willing to learn; decision making is based on experience and reflection.	NZ Mass merchant Thai FMCG Thai FMCG
<i>Negotiator</i>	A key intersection of functional heads and external interactions makes for a potentially powerful position for the SC manager. Here sides are drawn and the managers utilise their position to further their goals.	NZ dairy industry Thai automotive supplier UK auto systems UK aerospace systems UK food manufacturing
<i>Obstacle</i>	An immovable object who will not pass on information or agree to any form of change. Promoted over time from a shop floor trainee, minimal qualifications but in charge of a sizable budget. Due to lack of relevant experience and expertise all decisions are delayed.	NZ heavy machinery NZ health sector NZ dairy industry JPN pharmaceutical Thai paper manuf. UK auto heat treatment
<i>Relationship Builder</i>	Develops a shared view of the SC and brings a range of stakeholders together to enhance SC performance. Good listening skills are coupled with charisma, with the aim to educate key players for better SC decision making.	NZ primary producer Thai fertiliser manuf. Thai furniture maker UK auto components UK food manuf.

Table 4. Categories of Observed Supply Chain Manager Behaviour

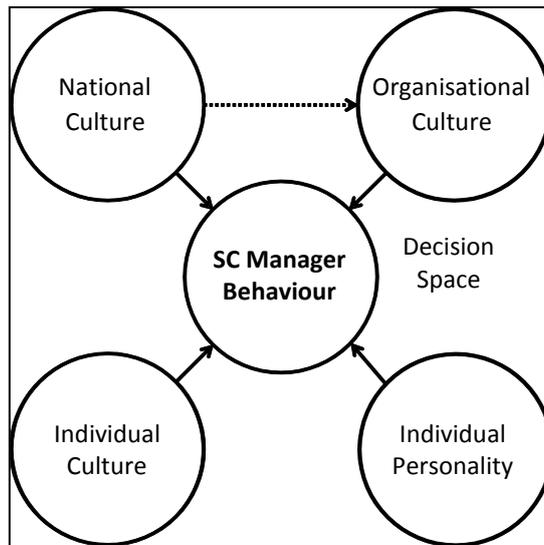


Figure 1. Cultural Factors Affecting the Behaviour of Supply Chain Managers